

REMARKS/ARGUMENTS

This application contains claims 1 through 22. Claims 1, 2, 4, 8, 9, 13, 19 and 21 have been amended. Claims 1 and 4 have been amended to address the objections presented in the Office Action. Regarding the rejections presented under 35 USC Section 112, second paragraph, applicants submit that the claims as filed would be clearly understood by those skilled in the art, particularly in view of the detailed description of the invention provided by the present specification. Nonetheless, claims 1 and 8 have been amended to more clearly define the reactants from which the claimed dispersants are derived. With regard to the claim that it is unclear whether, for purposes of calculating the number of acid-producing moieties per polyalkenyl moiety, a dicarboxylic acid producing moiety counts as one or two acid-producing moieties; applicants submit that the original claim language is clear. Specifically, the claim language requires 1.3 to 1.7 mono- or dicarboxylic acid producing moieties per polyalkenyl moiety, which clearly means that each acid producing moiety may be a monocarboxylic acid producing moiety or a dicarboxylic acid producing moiety, which means that a dicarboxylic acid producing moiety must be considered a single acid producing moiety.

With regard to claims 4 and 12, applicants submit that the limit on the diaryl amine content of the lubricant is an additional limitation and does not require antecedent basis. Applicants note that the diaryl amine is not the amine that may be provided by the high molecular polymer, but is instead amine provided by other sources, particularly diphenylamine antioxidants. Claims 19 and 20 have been amended to address the noted rejections. Further amendments to claims 1, 2, 8 and 13 have been presented to correct errata and grammatical errors. Applicants submit that the claim amendments to not affect the substantive scope of the claims or present any new matter.

The specification has also been amended to address the noted objections and a more descriptive title has been proffered. If the amended title is considered unacceptable, applicants request that the Examiner suggest an acceptable title.

Claims 1, 2, 5, 6 to 10, 13 to 15 and 19 to 22 were objected to as being directed to an invention not patentably distinct from claims 1 to 5, 10, 11 and 16 of commonly assigned U.S. Patent No. 6,869,919 B2 to Ritchie et al (hereinafter "the Ritchie et al. patent"). In accordance with 37 CFR Section 1.78(c), applicants hereby state for the record, through their attorney, that the inventions claimed in the Ritchie et al. patent and the present application were commonly owned or subject to an obligation of assignment to the same "person" at the time the later invention was made. Therefore, the Ritchie et al. patent does not qualify as a reference under 35 USC Section 102(e), (f) or (g), and cannot form the basis for a rejection presented under 35 USC Section 103(a).

Claims 1, 2, 5, 6 to 10, 13 to 15 and 19 to 22 were rejected under 35 USC Section 102(e) as being anticipated by the Ritchie et al. patent. The invention presently claimed is directed, *inter alia*, to lubricating oil compositions containing a combination of high molecular weight olefin polymers derivatized with a nitrogen-containing moiety, and a selected class of dispersant having a combination of either a defined molecular weight and "functionality", or a combination of a defined molecular weight and molecular weight distribution. The Ritchie et al. patent is directed, *inter alia*, to lubricating oil compositions containing a dispersant having a specified percentage of non-basic nitrogen and a defined amount of basic nitrogen, in combination with a specified detergent, or a combination of a high molecular weight polymer, which may or may not be derivatized with a nitrogen-containing moiety, and a defined detergent.

The functionality of the dispersants of the Ritchie et al. patent is not specified and the functionality of the dispersant is in no way described as critical. The molecular weight distribution of the dispersants of the Ritchie et al. patent is not required to be within the scope of the present claims, and the dispersants used in the examples of the Ritchie et al. patent are not described with sufficient detail to determine whether said dispersants are within the scope of the present claims. There is nothing in the Ritchie et al. patent that would suggest, much less expressly disclose, that the presently claimed combination of specified dispersants and high molecular weight polymers would provide any improved performance in lubricating oil compositions. Therefore, applicants submit that the Ritchie et al. patent fails to anticipate the claimed invention under Section 102, and respectfully requests that this ground for rejection be withdrawn.

Claims 1, 2, 5, 6 to 10, 13 to 15 and 19 to 22 were further rejected on the grounds of statutory obviousness-type double patenting as being unpatentable over claims 1 to 5, 10, 11 to 21 of the Ritchie et al. patent. Applicants request that this ground for rejection be held in abeyance until the application is found to be otherwise in condition for allowance, at which point applicants can file a suitable terminal disclaimer.

Claims 1 to 4, 6 to 12, 14 to 16, 19 and 21 were rejected under 35 USC Section 103(a) as being unpatentable over US Patent No. 6,583,092 to Carrick et al. (hereinafter "the Carrick et al. patent") in view of U.S. Patent No. 5,207,938 to Nalesnik (hereinafter "the Nalesnik patent"). As noted, the rejection was made based, *inter alia*, on the assumption that "the dicarboxylic acid groups are viewed as a two separate moieties in the ratio of carboxylic acid producing moieties per polyalkenyl moiety", which applicants consider unreasonable, as discussed *supra*. However, this interpretation is not critical with regard to the present rejection. The Carrick et al. patent describes lubricants in which dispersants may be used, which dispersants may or may not have the required polyalkenyl molecular weight and/or molecular weight distribution, and may, or may not have the required dispersant functionality. Further, the dispersant may or may not be present in an amount providing the requisite nitrogen content (in fact the presence of a dispersant is not even required by the claims of the Carrick et al. patent). Like the dispersant, the presence of a viscosity modifier is not required by the claims of the Carrick et al. patent and, when optionally present, may or may not be derivatized with a nitrogen-containing moiety. The Nalesnik patent describes certain high molecular weight polymers derivatized with nitrogen-containing moieties, but neither teaches or suggests that the use thereof, in combination with the presently claimed class of dispersants, provides any specific advantage in lubricating oil compositions.

The detailed comparative data of the present specification clearly demonstrates the improved performance in the industry standard "Mack T-11" test achieved with the claimed combination of dispersant and derivatized high molecular weight polymer in direct comparison with a greater than equivalent amount (in terms of nitrogen) of the claimed dispersant alone, or an even greater amount of a dispersant (again based on nitrogen) derived from a lower molecular weight polyalkenyl moiety (see Table 1, page 35). The test data of the specification further clearly demonstrates the improved performance of lubricants formulated with the claimed class of dispersant compared to dispersants having a functionality and/or molecular weight distribution outside the range of the present claims (see the data of Tables 2 and 3).

As previously noted, nothing in either of the cited prior art references would, in any manner, suggest that the use of a dispersant having the claimed molecular weight and functionality and/or molecular weight distribution, in combination with a derivatized high molecular weight polymer would provide any advantage over a greater than equivalent amount (based on nitrogen content) of a non-inventive dispersant; or a greater than equivalent amount (based on nitrogen content) of an inventive dispersant in the absence of the requisite derivatized high molecular weight polymer. Therefore, applicants submit that the improved performance demonstrated by the test data of the specification must be considered both surprising and unexpected and that, in view of this demonstration of surprising and unexpected result any case of *prima facie* obviousness that may have been established, has been rebutted. Therefore the withdrawal of the rejection of claims 1 to 4, 6 to 12, 14 to 16, 19 and 21 presented under 35 USC Section 103(a) is respectfully requested.

Claims 5 and 13 were rejected under 35 USC Section 103(a) as being unpatentable over the Carrick et al. patent and the Nalesnik patent, as described above, in further view of U.S. Patent No. 6,784,143 B2 to Locke et al. (hereinafter "the Locke et al. patent"), claim 17 was rejected under 35 USC Section 103(a) as being unpatentable over the Carrick et al. patent and the Nalesnik patent, as described above, in further view of U.S. Patent No. 6,753,381 B1 to Mishra et al. (hereinafter "the Mishra et al. patent"); claim 18 was rejected under 35 USC Section 103(a) as being unpatentable over the Carrick et al. patent, the Nalesnik patent, and the Mishra et al. patent, as described above, in further view of U.S. Patent No. 4,804,794 to Ver Strate et al. (hereinafter "the Ver Strate et al. patent"); and claims 20 and 22 were rejected under 35 USC Section 103(a) as being unpatentable over the Carrick et al. patent and the Nalesnik patent, as described above, in further view of U.S. Patent No. 4,286,567 to Ueda et al. (hereinafter "the Ueda patent").

Each of claims 5, 13, 17, 18, 20 and 22 is a dependent claim depending either directly or indirectly from claim 1 or claim 8. For the reasons noted above, the combination of the Carrick et al. patent and the Nalesnik patent fails to render obvious the subject matter of claims 1 and 8 and the deficiencies of the primary references are not cured by further reference to any of the Locke et al. patent, the Mishra et al. patent, the Ver Strate et al. patent the Ueda patent, or any combination thereof. Thus, for the reasons set forth above, applicants submit that all rejections presented under 35 USC Section 103(a) should now be withdrawn.

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Based upon the foregoing, applicants respectfully request that all stated grounds for rejection be withdrawn. Therefore, applicants submit that this application is in condition for allowance and respectfully request that it now be passed to issue.

Respectfully submitted,



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